

WHAT IS CLAIMED IS:

1. A system for heating or converting at least one medium, said system comprising at least one of an evaporator, a reactor and a heat exchanger, having layers arranged in a stack which layers are formed by the pressing of catalyst material, wherein the stack includes separator devices which divide it into a plurality of function areas.
2. The system according to Claim 1, wherein the at least one medium can be pressed through the layers, with a resulting pressure drop.
3. The system according to Claim 1, wherein the at least one medium flows over the layers, with a resulting pressure drop.
4. The system according to Claim 1, wherein said separator devices comprise insulating plates which divide the stacked layers into thermally mutually insulated function areas.
5. The system according to Claim 1, wherein the layers are arranged between a lower end plate and an upper end plate.
6. The system according to Claim 4, wherein said insulating plates extend essentially parallel to the layers.

7. The system according to Claim 5, wherein insulating plates are provided between the end plates and layers which are respectively adjacent to the end plates.

8. The system according to Claim 5, wherein the end plates are made of aluminum.

9. The system according to Claim 5, further comprising devices for clamping the layers between the two end plates.

10. The system according to Claim 9, wherein the devices for the clamping are formed by tie rods.

11. The system according to Claim 1, wherein edge areas of the layers are sealed off with respect to the environment.

12. The system according to Claim 1, wherein function areas of a high temperature are formed in an interior of the stack.

13. The system according to Claim 9, further comprising an insulation layer laterally surrounding the stack.

14. The system according to Claim 13, wherein the end plates and the devices for clamping in the layers are provided outside a thermally insulated area defined by outer insulating plates and insulation.

15. The system according to Claim 1, further comprising at least one of:

educt ducts which extend through at least a portion of the layers, by way of which educt ducts individual function areas can be selectively acted upon by respective educts;

connection ducts which extend through at least a portion of the layers, by way of which connection ducts educts or products can be transferred from a first function area into a second function area;

product ducts which extend through at least a portion of the layers, by way of which product ducts heated educts and reaction products can be removed from the respective function areas.

16. The system according to Claim 13, further comprising, different educt ducts which selectively communicate with respective function areas for admitting an identical educt to different function areas, and different product ducts for removing the products from the respective function areas.